

Amendment and Response Under 37 C.F.R. 1.116

Applicant: James A. Matthews

Serial No.: 10/632,167

Filed: July 30, 2003

Docket No.: 10030278-1

Title: INTEGRATED OPTICAL DETECTOR AND DIFFRACTIVE OPTICAL ELEMENT**REMARKS**

The following remarks are made in response to the Final Office Action mailed February 13, 2006. Claims 4 and 7 have been cancelled without prejudice. Claims 1, 4-7, 10, 11, and 19-23 were rejected. With this Response, claims 1, 5, 6, 10-11, and 19-23 have been amended. Claims 1, 5-6, 10-11, and 19-23 remain pending in the application and are presented for reconsideration and allowance.

Claim Objections

The Examiner objected to claim 4 because it depends upon cancelled claim 3. The Examiner interpreted that Applicant intended claim 4 to depend upon claim 1, which incorporates the subject matter of original claim 3.

Claim 4 has been cancelled without prejudice.

Claim Rejections under 35 U.S.C. § 102 and under 35 U.S.C. § 103

The Examiner rejected claims 1, 4-7, and 19 under 35 U.S.C. § 102(b) as being anticipated by the Lott U.S. Patent No. 5,892,786.

The Examiner rejected claims 1 and 20-23 under 35 U.S.C. § 102(b) as being anticipated by the Swirhun et al. U.S. Patent No. 5,892,786.

The Examiner rejected claims 10 and 11 under 35 U.S.C. § 103(a) for being unpatentable over the Morris, Jr. et al. U.S. Patent No. 6,452,669.

The Examiner rejected claims 20 and 22 under 35 U.S.C. § 103(a) as being unpatentable over the Lott U.S. Patent No. 5,892,786 in view of Miller et al. U.S. Patent No. 4,292,512.

Amended independent claim 1 now claims an integrated optical apparatus configured to detect and diffract light transmitted from a light source external to the integrated optical apparatus. The integrated optical apparatus includes a substrate and a diffractive optical element. The diffractive optical element includes a plurality of stack layers of optically transmissive material formed on the substrate, wherein at least one of the layers of optically transmissive material is a sensing element having a resistance responsive to incident light. Neither the Lott et al. patent nor the Swirhun et al. patent alone or in combination with any of

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the other cited references teach or suggest all of these limitations of amended independent claim 1.

Both the Lott et al. patent and the Swirhun et al. patent teach an optical detector integrated in a laser, such as a vertical cavity surface emitting laser (VCSEL). By contrast, Amended independent claim 1 specifically claims an integrated optical apparatus configured to detect and diffract light transmitted from a light source external to the integrated optical apparatus.

In addition, the Lott et al. patent discloses at column 8, lines 54-62, using a PIN photodiode. Nevertheless, the Lott et al. patent does not teach that the PIN photodiode is one of the layers of stacked optically transmissive material forming a diffractive optical element as recited in amended independent claim 1.

Moreover, the Swirhun et al. patent, at column 5, lines 53-61, does not teach that one of the layers of optically transmissive material is a sensing element having a resistance responsive to incident light as recited in amended independent claim 1. Rather, the Swirhun et al. patent, at column 5, lines 60-61, specifically states "portions 40, 45, and 50 form a PIN diode."

Furthermore, dependent claims 5-6, 10-11, and 19-23 further define patentably distinct amended independent claim 1.

Therefore, Applicants respectfully request reconsideration and withdrawal of the above rejections to claims 1, 5-6, 10-11, and 19-23, and request allowance of these claims.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1, 5-6, 10-11, and 19-23 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1, 5-6, 10-11, and 19-23 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-3718.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

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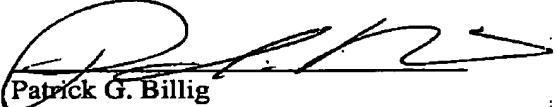
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The undersigned hereby certifies that this paper or papers, as described herein, are being facsimile transmitted to the United States Patent and Trademark Office, Fax No. (571) 273-8300 on this 13 day of April, 2006.

By: 

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